CO225-SOFTWARE CONSTRUCTION

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TUTORIAL 1

1).Yes can have static methods in interface declaration from java 1.8 version onwards.These methods are not available to the implementation classes by default.so we can't call interface static methods by using implementation class reference. We should call interface static methods by using interface names.

```
Public interface myENumber{
      Public static void printNo(){
      System.out.println("My E no is:E/16/203");
     }
}

Public class Test implements myENumber{
    Public static void main(string[] args){
    myENumber.printNo();
    }
}
```

2) No,java doesn't allow private methods in java interface in versions before 7.java provides mechanisms for access control intended to prevent users from accessing unnecessary details.thats the whole point of having methods,classes divided as private and public. Since an interface has no implementation to hide then there is no point in having private methods in it.
But after that version java allowed it since it would be helpful in a situation like when there is a method which is useful to several other methods in interface that method can be implemented as private and can be used within that interface only.

3) Yes,Interfaces can be extended.To do that we can use the “extends” keyword.

4) i would make a public class so the developer can inherit from it and use the methods in that class.then i make my methods including final keyword.so he will not be able to override my original methods in his child class but he can use them.i could use private , static keywords but using that will make my method unusable in subclass.so its not appropriate

5) languages that support multiple inheritance:-
Python,C++,Eulisp etc.

In java multiple inheritance is restricted.There could be ambiguities arise in multiple inheritance? For example, diamond problem can be given. In brief,assume a class B and C is inherited from class A and both these B,C override a method in A.Now if another class D is inherited from both B and C(multiple inheritance),and called that overridden method,,,,,,, now ambiguity arised!! What method should be called?? Overridden method in B or overridden method in C???

6) No.only members of a super class are inherited by child class.since Constructor is not considered as a member in a class.so constructors cannot be inherited.but constructor of the super class can be invoked from the subclass.

7) Constructor is a block of code which initializes a newly created object.
It can be seen as another method which have same signature as the class.

No, there can't be a class without a constructor.if programmer does not create a constructor the compiler will fill the blank and create a default. Here it initializes all of the class’s attributes either to null or zero depending on the data type and compiler.

8) it will be empty,because even if the array is initialized no value is passed to it in the command line. So there should be no value.Null is also a value.no value means it's empty.

9) JIT compiler(Just In Time compiler) is a component of the Java Runtime Environment that improves the performance of Java applications at run time.

10).yes,in Java, an abstract class can implement an interface.When implementing an interface from a normal class, all the methods in interface should be implemented in the parent class. But if that class is an abstract class no need to implement ALL methods, can leave out some methods without implementing. But those methods should be implemented in the class which inherit that abstract class.